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TITLE: RETROSPECTIVE STUDY OF HIV INFECTION IN HUMAN TISSUES

SUBTITLE: Computer Survey of the AFIP Repository for Cases of
           Acquired Immunodeficiency Preceding the HIV Pandemic

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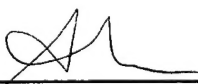
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To seek, review, identify, and retrieve repository materials (slides, blocks, wet tissues, and information) of cases fulfilling the CDC definition of AIDS in the absence of demonstrable HIV infection. Identify cases for potential use in basic research on the chronology of HIV retroviral infection in human tissues.

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INTRODUCTION

The objective of this project is to seek, review, identify, and
retrieve repository materials (slides, blocks, wet tissues, and
information) of cases fulfilling the CDC definition of AIDS in
the absence of demonstratable HIV infection. These cases could
then be used in basic research of the chronology of HIV
retroviral infection in human tissue. To meet this objective,
the AFIP's master database in the mainframe computer was searched
for cases accessioned before 1970 with any diagnosis indicative
of immunodeficiency in the absence of proven HIV infection (MMWR,
August 14, 1987/VOL. 36/No. 1S -- revised MMWR, 1992/41:1-19).
Case selection criteria are: clinical, pathological, and
demographic information available for correlation with
pathological diagnoses, geographic origin, anatomic source,
patient's age, and known risk factors demonstrated to influence
the spread and distribution of HIV infection and AIDS.

BODY

Cases were transferred onto a floppy disk for importation into a custom-designed database for additional analysis at the Division of AIDS Pathology. Cases with adequate materials and sufficient clinical documentation are being identified and retrieved for review at the AIDS Pathology Division. Records from cases accessioned before 1970 are being reviewed manually for entry into the study database. Records on microfilm will be scanned into digitized images and, when possible, translated into word processing files for conversion into other suitable formats for import into database records. We have developed and implemented a simplified and more practical approach to data retrieval from the AFIP mainframe computer for importation into personal computer workstations, thereby maximizing efficiency in reviewing and retrieving pathological material that is suitable for collaborative research in all aspects of pathology and basic science and potentially usable by other AFIP investigators.

The implementation phase, Phase I, is now complete. This consisted of outlining the infrastructure requirements, technical support requirements, and purchasing hardware and software. Phase II, preliminary identification of possible AIDS cases using CDC criteria for identification in the absense of HIV testing is underway. Phase III consists of making materials available for research and study, for the oldest cases in the Institute, that have a high probability of being AIDS. The schema for meeting this goal is outlined in Attachment A. The current status of the search is shown in Attachment B.

CONCLUSIONS

Identifying possible AIDS related cases from among the Institute's oldest materials can be very useful. A systematic approach which narrows the scope of identification to those cases that are the most likely candidates is underway. The process is approximatley 50 percent complete. After probable cases of AIDS are identified by this search and review, a decision will be made in collaboration with the U.S. Army Retroviral Group to determine the optimal use of the material. Possibilities include PCR and/or in situ testing for the presence of HIV viruses and viral sequencing.

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Search Schema

1. Some modification to the CDC criteria was made in order to further restrict the initial search to those cases most likely to actually be AIDS (e.g. Kaposi's sarcoma other than extremities).

2. Accession numbers for cases meeting the search criteria are identified.

3. Clinical and pathologic microfilm reports for the oldest cases are screened, and cases that have no relevance eliminated.

4. Pathology materials are requested for those remaining cases.

5. Materials are reviewed and irrelevant cases eliminated.

6. Materials are made available for further study.

Attachment A

STATUS BOARD

CDC Criteria	Additional Criteria	Identified by Search	Microfilm Reviewed	Possible (materials review pending)
1. Candidiasis of the esophagus, trachea, bronchi, or lungs.	Age 14 to 60, or age unknown.	35	11	1
2. Cryptococoosis, extrapulmonary.	Age 14 to 60, or age unknown.	68	14	5
3. Cryptosporidiosis with diarrhea persisting more than one month.				
4. Cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes in a patient older than one month of age.	Age 14 to 60, or age unknown.	45	10	2
5. Herpes simplex virus infection causing a mucocutaneous ulcer that persists more than one month, or bronchitis, pneumonitis, or esophagitis for any duration in a patient older than one month of age.				
6. Kaposi's sarcoma in a patient less than 60 years of age.	Age 14 to 60, or age unknown, other than extremities	15	12	4
7. Lymphoma of the brain (primary) in a patient less than 60 years of age.	Age 14 to 60, or age unknown.	19		
8. Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia in a child less than 13 years of age.				
9. Mycobacterium avium complex or M. kansasii disease, disseminated (at a site other than lungs, skin, or cervical or hilar lymph nodes).				
10. Pneumocystis carinii pneumonia.	Age 14 to 60, or age unknown.	14	14	1
11. Progressive multifocal leukoencephalopathy.				
12. Toxoplasmosis of the brain in a patient older than one month of age.	Age 14 to 60, or age unknown.	11		
	Totals:	207	61	13